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**IN THE UNITED STATES PATENT
AND TRADEMARK OFFICE**

Applicant(s): B. ALBECK et al

Serial No. : To be assigned,
(Division of
USSN 08/902,453,
filed July 29,
1997)

Filed : Concurrently
Herewith

For : ELECTRICAL TERMINAL USED
FOR WIRING FLUORESCENT
LIGHT FIXTURES, AND THE
LIKE

Art Unit : 3729

Examiner : A. DEXTER TUGBANG

PRELIMINARY AMENDMENT

Asst. Commissioner for Patents
Washington, D.C. 20231

S I R :

Please amend the application as follows:

IN THE TITLE:

Replace the title on page 1 of the application with:

ELECTRICAL TERMINAL USED FOR WIRING FLUORESCENT LIGHT
FIXTURES, AND THE LIKE

IN THE SPECIFICATION:

Page 1, before the first line, insert as follows:

This is a division of application Serial Number
08/902,453 filed July 29, 1997, pending.

Express Mail Mailing Label
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Julie Harting

In the event that this Paper is late filed,
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required in connection with this Paper
to Account No. 06-1378.

Page 1, replace the first paragraph, corresponding to page 1, lines 5-11 as follows:

Reference to related patents, the disclosures of which are hereby incorporated by reference:

U.S. Patent No. 5,422,848, Koller et al., to which German 43 12 777 A1 corresponds;

U.S. Patent No. 5,515,606, Albeck et al.;

U.S. Patent No. 3,930,524 Tarbox.

Page 1, replace paragraph two, corresponding to page 1, lines 12-15 as follows:

Reference to related documentation:

German 32 36 868 A1, Wallner et al.;

German 12 90 210, B.

Page 13, replace paragraph 4, corresponding to page 13, line 31 to page 14, line 33.

The base portion 8 of the housing 4, as best seen in Fig. 4, has a plurality of parallel vertical walls, 9, 10, integrally formed therein. These walls 9, 10, which, see Fig. 5, delimit a contact zone 3. Each contact zone retains a metallic SBIPC 11, retained transversely to the longitudinal extent of the walls 9, 10. The SBIPC, as is well known, has a clamping or holding slit 12, open to the wire introduction side which, in Fig. 2, is at

the upper side of the housing 4. The SBIPC 11, which is typically made of stamped sheet metal, is electrically conductively connected with the ballast, for example the windings of an electromagnetic ballast. Oppositely located edges of the SBIPC 11 are located in facing grooves 13 (Fig. 5) of the walls 9, 10. They are retained with some play, such that the portions of the SBIPC adjacent the slit 12 may elastically deflect when a wire is pressed into the connector. Rib-like or rail-like projections 14 are integrally formed on the housing at both sides of the SBIPC 11 on the sidewalls 9, 10, extending inwardly. The ribs or rails, in pairs, face each other and, to such facing ribs or rails define a wire insertion slot 15, which is open to the wire insertion side, and, in general, has approximately U-shaped form. These projections 14, looked at from the longitudinal direction of the walls 9, 10, are spaced from the SBIPC 11. They also form the lateral limit of the contact zone 3, and, between two longitudinally spaced ribs 14, define a chamber which, in crosssection, is essentially square. Two slot or groove-like recesses 16 extend on both sides from the insertion slots 15 of any one of the terminals 2. These groove-like slots or depressions form extensions of the insertion slots 15 and extend towards the front or rear side of the housing, respectively; they are open to the wire insertion side. These slot- or groove-like extensions 16, the insertion slots 15 and the slit 12 of the SBIPC 11, together define a common plane of symmetry 17 (Fig. 5).

The depth of the extensions 16, in this example, is slightly deeper than that of the insertion slots 15. The insertion slots 15, as best seen in Figs. 3 and 4 have, essentially, the same depth as the depth of the slit 12 of the SBIPC 11.

IN THE CLAIMS

Cancel claims 1-17, without prejudice and amend claims 18 and 22 to the following (with changes shown on the attachment hereto):

18. (Amended) A terminal comprising:

a contacting zone (3) having an insulation piercing slit blade connector SBIPC (11) located therein,

an insulating housing (4) formed with an inlet slot (15) to receive a wire (20), and retaining said SBIPC with a wire receiving slit (12) aligned with said inlet slot (15), said SBIPC being retained within said housing (4) safe against accidental contact therewith;

said housing (4) being formed with a slot or groove-like extension (16) projecting from said at least one inlet slot (15), which extension (16) is so dimensioned that a free end of the wire (20) is retained therein secure against accidental contact with said free end;

said terminal (2) being dimensioned to fit within a predetermined raster; and

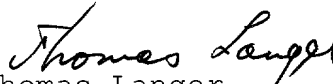
wherein said extension (16) at least in part, has a width which is smaller or at most slightly larger than the nominal outer diameter of the wire (20) to be connected to said SBIPC (11), including the insulation of said wire (20).

22. (Amended) The terminal of claim 18, further including a bottom wall (18) formed on said extension (16), said bottom wall being essentially in alignment and equal to the bottom edge (19) of an insertion slit (12) of the SBIPC (11).

REMARKS

This application is a division of U.S. Serial No. 08/902,453 filed July 29, 1997.

Respectfully submitted,


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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
"ELECTRICAL TERMINAL USED FOR WIRING FLUORESCENT LIGHT FIXTURES, AND THE LIKE"
~~"METHOD OF WIRING ELECTRICAL TERMINALS OF ELECTRICAL~~
~~DEVICES OR SYSTEMS, WIRING APPARATUS, AND TERMINALS~~
~~USED BY THE APPARATUS AND FOR USE IN THE METHOD"~~

This is a division of application Serial Number 08/902,453
filed July 29, 1997, pending.

Reference to related patents, the disclosures of which are hereby
incorporated by reference:

U.S. Patent No. 5,442,848, Koller et al., ~~assigned to the~~
~~assignee of this application,~~ to which German 43 12 777 A1 corresponds

U.S. Patent No. 5,515,606, Albeck et al., ~~assigned to the~~
~~assignee of this application;~~

U.S. Patent No. 3,930,524, ~~Stoneburner~~ Tarbox.
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Reference to related documentation:

German 32 36 868 A1, Wallner et al.;

German 12 90 210, B/.

~~German 43 12 777 A1.~~

11.07.97
Stefan Koller
Bourhard Albeck

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FIELD OF THE INVENTION.

The present invention relates to the technological field of
wiring electrical apparatus or devices, for example luminaires,
fluorescent light fixtures, or the like. The term "electrical
5 devices" also includes terminal blocks or terminal elements which
may be associated with light sockets or the like, and which have
at least one terminal, or may have a number of terminals, for
example to provide connection points, test points, or support
points for electrical wires. Specifically, the invention is
10 directed to a method to wire the electrical terminals of

DETAILED DESCRIPTION.

The method in accordance with the present invention can be used for a wide variety of electrical apparatus and devices; it will be described in detail with respect to wiring of fluorescent lamp luminaires or light fixtures, as, for example, described in the referenced U.S. Patent No. 5,515,506, Albeck et al.

The light fixture or luminaire is first preassembled with the requisite elements thereof; a box structure, usually of metal, is fitted with the respective electrical components, placed thereon in accordance with a predetermined geometric pattern, and attached to the main support, for example a bottom panel of the luminaire box. They are there securely attached. Figs. 1 and 2 illustrate only a ballast 1 which has the terminal block or terminal portion thereof constructed in accordance with a feature of the present invention. These terminal portions or terminal blocks 2 all are based on the general principle of a contact zone 3, which includes a slit blade insulation piercing connector (SBIPC). Details are best seen in Figs. 2 to 5, which illustrate the basic principle.

Each terminal position 2 has a housing 4 made of insulating material, typically of plastic, and includes an electrical wire clamping connection, for example, and as will be described in detail below, and SBIPC 11. The terminal 2 may be a single pole terminal, or, as illustrated in Fig. 2, a double-pole terminal, or can be a multi-pole terminal, as shown in Fig. 3. The housing 4 of insulating material is essentially box- or block-shaped, see Fig. 2, and the bottom thereof is formed with an attachment arrangement, for example, an attachment loop 5, or a similar arrangement, which can be fitted into a bent-up tab 6 of the base plate 7 of the ballast 1.

The base portion 8 of the housing 4, as best seen in Fig. 4, has a plurality of parallel vertical walls 9, 10, ~~integral~~ ^{integrally} formed therein. These walls 9, 10, which, see Fig. 5, delimit a contact

zone 3. Each contact zone retains a metallic SBIPC 11, retained transversely to the longitudinal extent of the walls 9, 10. The SBIPC, as is well known, has a clamping or holding slit 12, open to the wire introduction side which, in Fig. 2, is at the upper side of the housing 4. The SBIPC 11, which is typically made of stamped sheet metal, is electrically conductively connected with the ballast, for example the windings of an electromagnetic ballast. Oppositely located edges of the SBIPC 11 are located in facing grooves 13 (Fig. 5) of the walls 9, 10. They are retained with some play, such that the portions of the SBIPC adjacent the slit 12 may elastically deflect when a wire is pressed into the connector. Rib-like or rail-like projections 14 are integrally formed on the housing at both sides of the SBIPC 11 on the sidewalls 9, 10, extending inwardly. The ribs or rails, in pairs, face each other and, to such facing ribs or rails define a wire insertion slot 15, which is open to the wire insertion side, and, in general, has approximately U-shaped form. These projections 14, looked at from the longitudinal direction of the walls 9, 10, are spaced from the SBIPC 11. They also form the lateral limit of the contact zone 3, and, between two longitudinally spaced ribs 14, define a chamber which, in cross-section, is essentially square. Two slot or groove-like recesses 16 extend on both sides from the insertion slots 15 of any one of the terminals 2. These groove-like slots or depressions form extensions of the insertion slots 15 and extend towards the front or rear side of the housing, respectively; they are open to the wire insertion side. These slot- or groove-like extensions 16, the insertion slots 15 and the slit 12 of the SBIPC 11, together define a common plane of symmetry 17 (Fig. 5). The depth of the extensions 16, in this example, is slightly deeper than that of the insertion slots 15. The insertion slots 15, as best seen in Figs. 3 and 4 have, essentially, the same depth as the depth of the slit 12 of the SBIPC 11.

18. A terminal [element, particularly for use with the method of claim 1,] comprising:

[said terminal element comprising] a contacting zone (3) having an insulation piercing slit blade connector SBIPC (11) located therein,

an insulating housing (4) formed with an inlet slot (15) to receive a wire (20), and retaining said SBIPC with a wire receiving slit (12) aligned with said inlet slot (15), said SBIPC being retained within said housing (4) safe against accidental contact therewith;

said housing (4) being formed with a slot or groove-like extension (16) projecting from said at least one inlet slot (15), which extension (16) is so dimensioned that a free end of the wire (20) is retained therein secure against accidental contact with said free end;

said terminal (2) being dimensioned to fit within a predetermined raster; and

wherein said extension (16) at least in part, has a width which is smaller or at most slightly larger than the nominal outer diameter of the wire (20) to be connected to said SBIPC (11), including the insulation of said wire (20).

19. The terminal of claim 18, wherein said contacting zone is formed by a pair of rib-like projections (14) facing each other and, together forming said inlet slot;

and wherein said terminal is further formed with spaced walls (9, 10) extending away from said SBIPC (11) in a direction essentially perpendicular to said SBIPC along a longitudinal axis (17),

said projections being integral with said walls (9, 10).

20. The terminal of claim 19, wherein said walls (9, 10) are formed with facing rib-like projecting portions (22) defining, between themselves, a reception slot (23) for said wire (20).

21. The terminal of claim 20, wherein the width of at least one of

the space between said projecting portions (22) and said inlet slot (15) is smaller than the nominal diameter of the wire (20) including its insulation.

22. The terminal ^{of claim 18,} further including a bottom wall (18) formed on said extension (16), said bottom wall being essentially in alignment and equal to the bottom edge (19) of an insertion slit (12) of the SBIPC (11).

23. The terminal of claim 18, further including a closing-wall (27) closing off said extension (16) at the side thereof remote from the SBIPC.

24. The terminal of claim 23, wherein said closing wall (27) is frangible to permit breaking thereof upon introduction of a wire (20) into said extension (16).

25. The terminal of claim 18, further including removable, openable closing means (28) closing off said extension (16) at the side remote from the SBIPC, said openable closing means (28) being elastically deflectable upon insertion of the wire (20) into said extension.

26. The terminal of claim 18, wherein said housing walls (9, 10), in the region of said groove-like extension (16) is